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*File: Mission & Function*

27 July 1964

**MEMORANDUM FOR: Deputy Director for Science and Technology**  
**SUBJECT : OCS Functional Statement and Organization Chart**

1. Attached are the Functional Statement and Organization Chart on OCS requested by your office for the budget review.

2. No Mission and Function on OCS has as yet been published in Agency regulations. The attached "Functional Statement" could serve that purpose, however.

3. The attached OCS Organization Chart does not show the Office in its "interim" structure... in which ADPD has not been integrated into OCS. Rather it shows the Office in its integrated format with ADPD resources structured within the base framework of this Office. In every other regard, the chart does reflect the present OCS structure.

**JOSEPH BECKER**  
Assistant Director,  
Computer Services

**Attachments:**

- A. Functional Statement
- B. Organisation Chart

Orig & 1 - Addressee

- ✓ 1 - OCS Plans
- 1 - OCS Admin
- 1 - OCS DD/S&T file
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*See July 64 version*

D R A F T

19 March 1964

OFFICE OF COMPUTER SERVICES

MISSION: The Assistant Director for Computer Services is responsible for developing and operating a central computer services organization for CIA in support of requirements from all parts of the Agency, Headquarters and Field; with providing policy, coordination, technical, and other support to all automatic data processing activities in the Agency; and with representing the Agency on automatic data processing matters with other Government and non-Government organizations.

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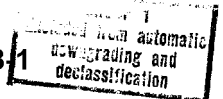
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Excluded from automatic  
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D R A F T

DEFINITION: For the purpose of this regulation automatic data processing is defined to include computing and other information handling operations (i.e., indexing, storing, and retrieving information; performing statistical, accounting, and management support functions, etc.) on the following types of equipment: Electronic Data Processing Machines, Photo-Electronic Data Processing or Document Retrieval Machines, Electro-Mechanical Accounting or Statistical Machines, and other machines integral or peripheral to such systems.

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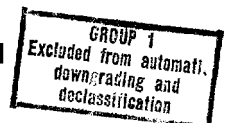
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D R A F T

FUNCTIONS: The Assistant Director for Computer Services shall:

1. Evaluate requirements and provide appropriate computer support to Agency components.
2. In collaboration with potential customers, perform automatic data processing systems analysis and design functions.
3. Acquire or write computer programs as needed for mathematical, scientific, language processing, information handling, business applications, and other automatic data processing requirements.
4. Perform data analysis, reduction, transcription, and other services pursuant to the conversion of data to machine readable language.
5. Staff, equip, and operate centralized facilities to perform scientific computing, language processing, information handling, business and administrative applications, and other automatic data processing operations for the Agency.
6. Coordinate related activities and provide technical support to other CIA ADP facilities which supplement the Agency's central computer organization.
7. Review all requests for purchase or lease of automatic data processing equipment for appropriateness to the responsibilities and capabilities of the requesting installation and to the overall Agency program; approve, disapprove, or modify such requests.

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8. Review all requests for the transfer or disposal of automatic data processing equipment and make appropriate recommendations.

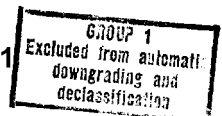
9. In collaboration with the Office of R&D, DD/S&T, the Office of Logistics, DD/S, and other appropriate Agency components, contract for personal services and for research and development of equipment to support automatic data processing activities; provide technical and administrative monitoring of such contracts as required.

10. Assemble and maintain central records on automatic data processing equipment inventory, rental costs, and utilization within CIA.

11. Represent the Agency in external relations in the field of automatic data processing.

12. Collaborate with the Office of Security, the Office of Communications, and other members of the Intelligence Community in developing and effecting appropriate technical security measures for automatic data processing installations.

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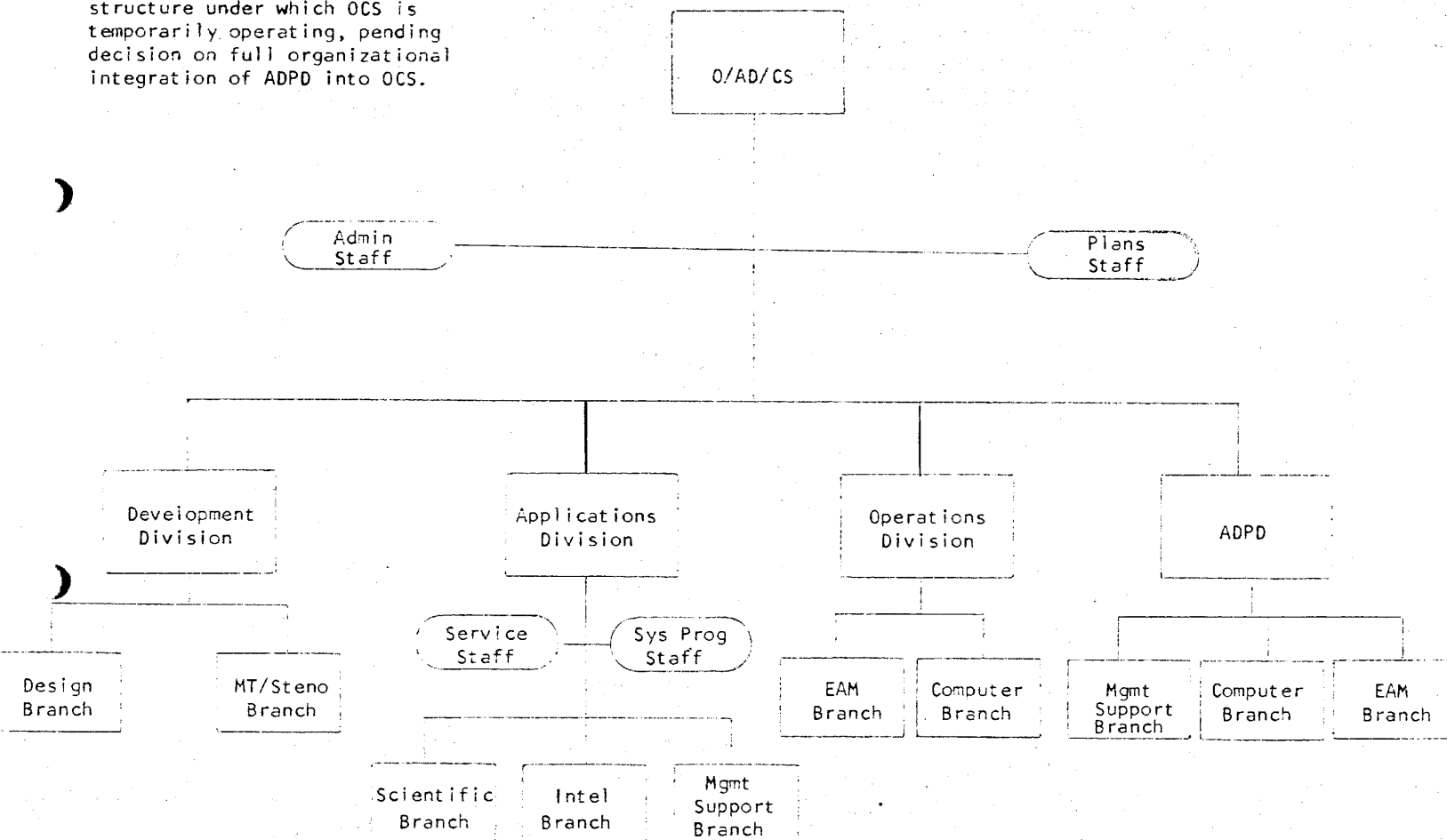
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OFFICE OF COMPUTER SERVICES

17 MAR 1964

INTERIM ORGANIZATION CHART

This is the interim organization structure under which OCS is temporarily operating, pending decision on full organizational integration of ADPD into OCS.



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1. Current ADPD Situation

a. Organization

The missions and functions of each group within ADPD and the personnel assigned to each group is shown in Tab A.

b. Procedures

- 1) Although the original intent of the Table of Organization was to establish a staff of Analysts and Programmers without regard to area serviced, it was soon apparent that continuing and changing requirements placed on ADPD by its users dictated the necessity for an application-oriented organization. Each component serviced is represented by at least one liaison contact who has the responsibility for submission of new job orders, requests for changes of established routines, requests for changes in numbers of copies of reports, and requests for changes in report formats. ADPD has established at least one liaison contact to which user organizations can direct such requests. As a consequence, it is felt that a great deal of flexibility is injected into the assignment of tasks by placing primary responsibility on personnel who must answer directly for the end product. This arrangement has also greatly facilitated the mailing of finished reports to user organizations since, in most cases, the majority of reports for any one area are directed to one central point of contact. The procedure outlined above does not preclude the lateral use of Analysts and Programmers in areas different from that of principal knowledge. Under different circumstances a more formal approach is taken, and closely follows the "classic approach" following established lines of authority.

2) General Work Flow

As a rule, new projects are reviewed by the Chief, ADPD and Chief Analyst. At this point the workload is considered in view of on-hand requirements. When appropriate, the Analyst most familiar with the area involved is brought in. The Analyst completes preliminary charting and makes recommendations to Chief Analyst regarding any significant point having a possible impact on ADPD or user operations. When the project has been sufficiently detailed, the Analyst confers with the

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Chief Programmer regarding the assignment of a Programmer to the project. The Programmer assigned is thoroughly briefed by the Analyst regarding any special considerations inherent in the project, and a program completion target date is established. The Programmer is then responsible for the project to the point at which the program is debugged and a sample report is available for submission to the Analyst for final approval. An informal approach has been taken on other than new applications.

### 3) Fiscal Practices

ADPD has followed a policy for satisfying customer requirements in the most economical manner possible. Supplies have been purchased in quantity to take advantage of discounts. Equipment has been purchased when it has been determined that the equipment will be used for a period of time beyond the break-even point of rental versus purchase. In other fiscal matters, ADPD has followed procedures as set forth by the Office of the Comptroller.

*Also doesn't bother  
to use Depot's  
facilities for  
stock control*

### 4) Personnel Practices

ADPD has followed a practice of "Promotion from within." Every attempt has been made to schedule Division personnel for internal/external training courses that would further his career in EDP. At the present time there are 26 personnel connected with EDP operations. The following is a break-down of Programming training received:

<u>Course</u>	<u>Number Taken</u>
RCA 501	25
RCA 301	23
Burroughs 220	8
Alvac III E	1
IBM 650	6
IBM 305	1
IBM 1401	7
IBM 704	1
IBM 705	1

There will possibly be six ADPD personnel who will be unable to make a satisfactory transition to EDP from FAM, and will have to be replaced.

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- c. The equipment numbers and descriptions are described in Tab B. Personnel background and work summaries are not included with this paper. This data will be supplied by Chief, ADPD under separate cover to the Chief, OCS. /
- d. Applications

An application is defined as any group of integrated programs servicing one specific operating area.

1) EDP Applications

At present, ADPD operates and maintains 16 separate applications serving 5 different Agency offices (See Tab C). There are 185 computer programs in the present program library, totaling some 220,000 instructions. These programs produce 378 different reports. Programs in process number 25, and will produce a minimum of 25 additional reports. In addition to preparation and maintenance of regular production programs, 86 special or non-recurring programs were prepared in the period 1 January 1963 thru November 1963 to answer specific requests for information. (See Tab D for representative samples.)

- 2) EAM applications are varied and include peripheral balancing jobs for the computer, small jobs not computer-oriented, and some for which computer programs have not been completed. These applications produce 104 recurring reports. Sixty special EAM reports were produced in the first eleven months of 1963.

- 3) Pending applications and major revisions to existing applications and completion dates for each are as follows:

- a) Confidential Funds Payroll Fully operational March 1964
- b) Personnel Qualifications Fully operational 1 October 1963 (Files not complete at this time, but all programs completed awaiting completion of data from O/P)
- c) Agency Retirement Records Had systems approval, no firm schedule

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|--|--|
| d) Computer preparation of personnel actions | Tentative systems approval, no target date |
| e) FAN System for Cost Distribution          | 1 July 1964                                |
| f) Agency Junior Officer Trainee Programs    | Preliminary planning                       |
| g) Accounts Payable procedures               | 1 January 1964                             |

- e. A review of the budget for FY 1965 indicates no appreciable change in the amounts estimated for object class 200 through 900. There are reductions of approximately \$16,000 in object class 500, rental, caused by discontinuance and replacement of some IBM equipment, and \$13,000 in object class 800, supplies, due to free acquisition of 1,327 reels of RCA magnetic tapes from Social Security Administration. This item can be deleted from the budget for several years. The possibility of enhancing the 501 Computer by the installation of Speed-Pak at an outlay of \$24,500, which was not budgeted for, should be considered.

## 2. Problems

### a. Current Situation

#### 1) Organization

There is a shortage of programmer and operational personnel in ADPD. Programming is now in progress to reduce EAM applications and equipment. This will enable ADPD to shift computer operational personnel into programming and EAM personnel into computer operations.

*except who  
will be  
replaced*

#### 2) Equipment

The amount of utilized computer time is drawing near the absolute maximum of time available.

### b. Problems related to consolidation are divided into two categories.

- 1) Regardless of the organizational pattern chosen, these problems will be present.

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- a) Personnel morale doesn't seem to be a great problem at the present time. It may become a severe problem. *why?*
  - b) In addition to source and operational security problems now present in OCS, ADPD will add problems of personnel security, organizational security and privileged information. *why?*
  - c) As long as the two computer centers are physically separated, management, liaison and administrative problems will be present.
- 2) The second category is related to the organizational patterns shown in Tab F. Rather than problems, they could more properly be called desirable attributes of our optimum organizational structure.
- a) Liaison between programmers and systems analysts.
  - b) Continuity of applications
  - c) Liaison with customers
  - d) Long range development of skills
  - e) Pooling of personnel resources
  - f) Accomplishment of research, development and evaluation tasks
  - g) Need-to-know compartmentation
  - h) Time needed to effect efficient organization
  - i) Continuity of present organizational lines
  - j) Pooling of equipment resources
  - k) Distribution of experienced personnel
  - l) Fitting in present personnel
3. It is recommended that
- a. Organizational plan number five be adopted, and
  - b. Physical consolidation be accomplished as soon as possible.

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LIST OF COMPUTER APPLICATIONS

Comptroller

Budget Estimates  
Confidential Funds Payroll  
Finance Accounts  
Fiscal Accounts  
Vouchered Payroll

Logistics

Stock Status Control  
Stock Management  
→ Catagogue

Medical Staff

Test Assessment and Evaluation

Personnel

Personnel Accounting and Statistics  
Table of Organization and Related Reports  
Personnel Locator  
Personnel Qualifications  
Insurance Payments

Training

Agency Training Records  
Language Qualifications

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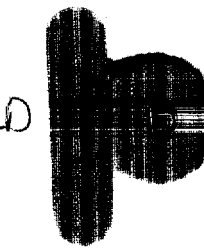
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RECURRING REPORTS

	<u>DAILY</u>	<u>TWICE WEEKLY</u>	<u>BI-WEEKLY</u>	<u>MONTHLY</u>	<u>QUARTERLY</u>	<u>SEMI-ANNUAL</u>	<u>ANNUAL</u>	<u>TOTAL</u>
1. Logistics			16	38	6	1	4	65
2. V. Payroll			39		2	2	3	46
3. Accounts	3		3	17	2	3	3	31
4. Personnel			3	106	58	19	3	189
5. C. F. Payroll				11			3	14
6. Medical Staff		1			4		1	6
7. Special Project	<u>    </u>	<u>  3  </u>	<u>  1  </u>	<u>  3  </u>	<u> 16 </u>	<u>    </u>	<u>  4  </u>	<u> 27 </u>
TOTAL	3	4	62	175	88	25	21	378

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## EQUIPMENT DESCRIPTION

503 Computer -- 501 Component

The Computer, Model 503, is a general purpose, stored program, digital processor. It handles alphanumeric information serially by character or by four parallel characters, and uses a two-address instruction code. Either fixed or completely variable length may be handled. Simultaneous tape read-compute, tape write-compute, tape write-tape read, card read-compute and card punch-compute operations as well as simultaneous On-Line Printer operations with read, write or compute operations are provided. The High-Speed Storage is expandable from 16,384 to 262,144 characters and the magnetic tape trunks may be expanded from eight to 62 addresses. The Computer includes a Monitor-Printer and a 1,000 c.p.s. Paper Tape Reader.

525 Tapewriter Verifier

The Tapewriter Verifier, Model 525, is a key-board operated device for punching a chad paper tape in the 7-level RCA 501 code and printing the same information of paper stock. It verifies the accuracy of the resultant tape by comparison of the information entered into the keyboard with that of a previously prepared punched paper tape.

547-6 Tape Switching Unit -- 501 Component

A push-button operated device capable of switching up to six magnetic tape stations trunks to any of six Computer trunks. Data and control signals are transferred to and from the Computer trunks through the switching unit to the magnetic tape station trunks.

561-2 High Speed Storage -- 501 Component

A magnetic-core, random-access device which operates under control of the Model 503 Computer. It provides storage for data and programs. Four sizes of storage units are available from 16,384 to 65,536 character locations. The maximum storage capacity of a system is 262,144 character locations. The High-Speed Storage memory access cycle is 15 microseconds. During this cycle, four characters may be addressed, transferred into the memory register and regenerated into the original storage location.

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581 Tape Station -- 501 and/or 301 Component

The Model 581 Tape Station is used for reading, writing and erasing binary coded characters of 3/4 inch magnetic tape in response to applied control signals at a rate of 33,333 characters per second. The tape speed is 100 inches per second, forward or reverse. Reading is possible in the forward or reverse direction; writing and erasing are performed in the forward direction. The recording is done simultaneously in eight channels and each of these channels is dually recorded. The Tape Station is designed to facilitate manual interchange of tape reels, which can be accomplished in less than one minute.

303 Basic Processor -- 301 Component

The Processor, Model 303 (10,000 character magnetic-core memory), is general purpose, stored program, digital machines. Each Processor handles alphanumeric, variable-length data serially by character. A ten character two-address (decimal) instruction format is used. The high-speed memory is a random-access, magnetic-core device that provides storage and work area for programs and data. Each character is individually addressable by the Processor. The memory cycle is seven-microseconds. The Processor operates the input/output devices through Control Modules, generally one for each device used in a system. Normal processing operations continue simultaneously while searching data records, rewinding magnetic tapes or advancing paper in the printer. Additional simultaneous functions such as parallel operation of two input/output devices may be performed when the Processor is equipped with the Simultaneous Mode Control.

316-1 On-Line Printer Control -- 301 Component

The On-Line Printer Control, Model 316-1, enables the Processor to operate the On-Line Printer, Model 333, in accordance with the computer program. When an additional On-Line Printer, Model 333, is used with the Processor, a second On-Line Printer Control, Model 316-2, is required.

330 Card Reader/Punch -- 301 Component

The Card Reader/Punch 330, consists of an 80-column card reader and card punch in the same inclosure. Reading is performed at rates up to 800 cards per minute and punching at rates up to 250 cards per minute. The input capacities of the read hopper and

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punch hopper are at 3,000 cards and 1,200 cards, respectively. There are five output stackers which hold a maximum of 1,000 cards each. Under program control, three of the five stackers may be selected to receive the card output from the reader and punch units. The Card Reader/Punch is operated by the Processor through the Card Reader/Punch Control, Model 369-1.

### 333 On-Line Printer -- 301 Component

The On-Line Printer, Model 333, accepts information from the Processor via the On-Line Printer Control, Model 316-1, 316-2 on the Printer Buffer and Control Models 345-1, 345-2, and prints this information in the form of hard copy. The printing format is a maximum of 120 characters per line, 10 characters per inch horizontally, and 6 lines per inch vertically. The printing rates are up to 1000 lines per minute (synchronous mode---47 alphanumeric characters), and 800 lines per minute (asynchronous mode---64 alphanumeric characters). The printer unit provides 64 characters which include the 26 letters of the English alphabet, the decimal numerals and 28 special symbols.

### 369-1 Card Reader/Punch Control -- 301 Component

The Card Reader Punch Control, Model 369-1 enables the Processor to operate a Model 330 Card Reader/Punch in accordance with the computer program. The card reading rate is up to 800 cards a minute and the card punching rate is up to 250 cards a minute. Reading and punching may be performed concurrently when the Processor has been equipped with the Model 392 Simultaneous Mode Control. When reading, translation from card code to 301 code is performed automatically, and when punching, cards are automatically transcribed into card code. Automatic translation for both reading and punching may be by-passed under program control. This feature permits both reading and punching binary coded cards.

### 393-1 581 Adapter -- 301 Component

The 581 Adapter, Model 393-1, enables the Processor to operate a Model 581 Tape Station, in accordance with the computer program. When an additional Model 581 Tape Station is used with the Processor a second 581 Adapter, Model 393-2, is required. Character transfer rate is 33,333 characters per second.

### F11 Optional Paper Tape Feature -- 501 Component

This feature consists of modifications to the Model 503 Computer and the Computer Paper Tape Reader, permitting 5-level as well as

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7-level punched paper tape to be read into the system. When reading 5-level tapes a translation routine is required.

F26 Rewind Parity Check -- 501 Component

This feature consists of modification of the Model 581 Tape Station to permit parity checking of tapes during the rewind operation. If a parity error is detected the rewind operation is stopped and the RWD/PE light on the Tape Station will be illuminated. The operator can then initiate corrective action.

F78 Early Card Reader -- 301 Component

This feature replaces the standard (one point) read clutch with a special (three point) read clutch. When performing a demand read operation, this feature decreases the delay to access the next card.

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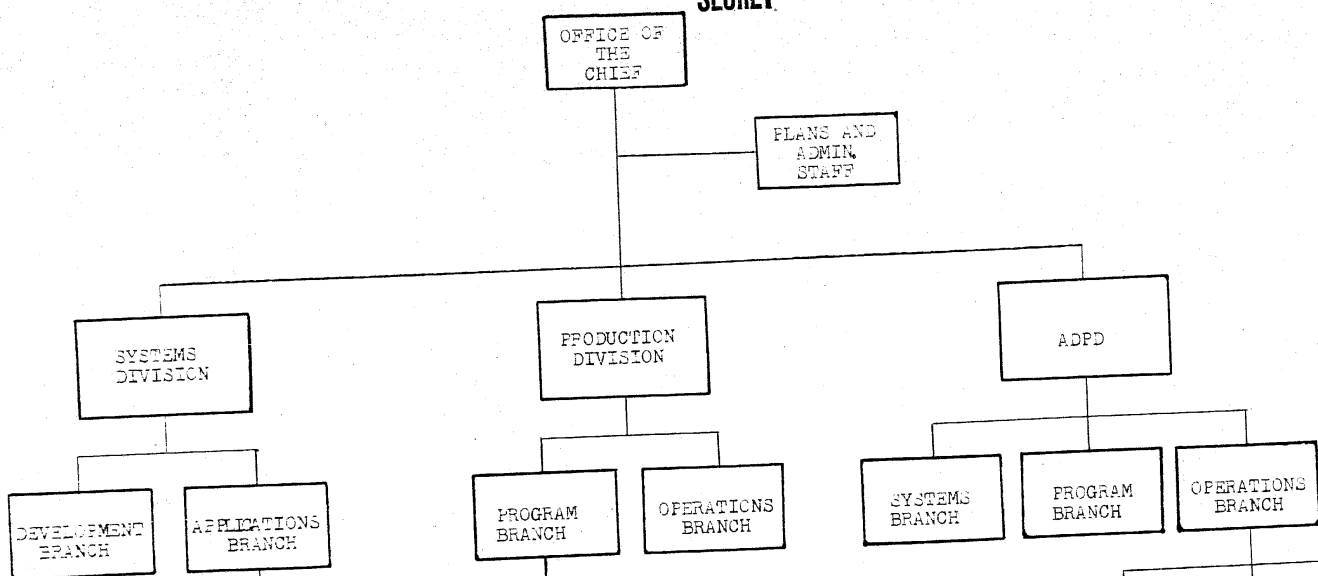
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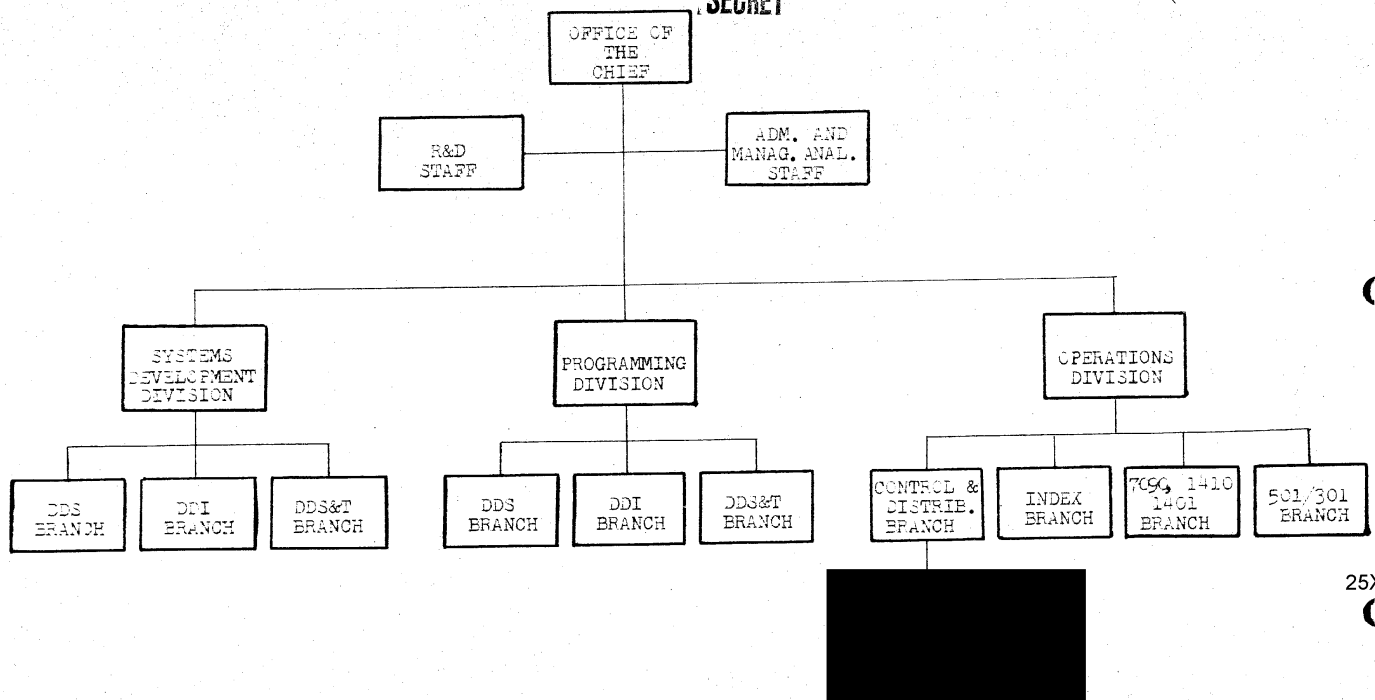
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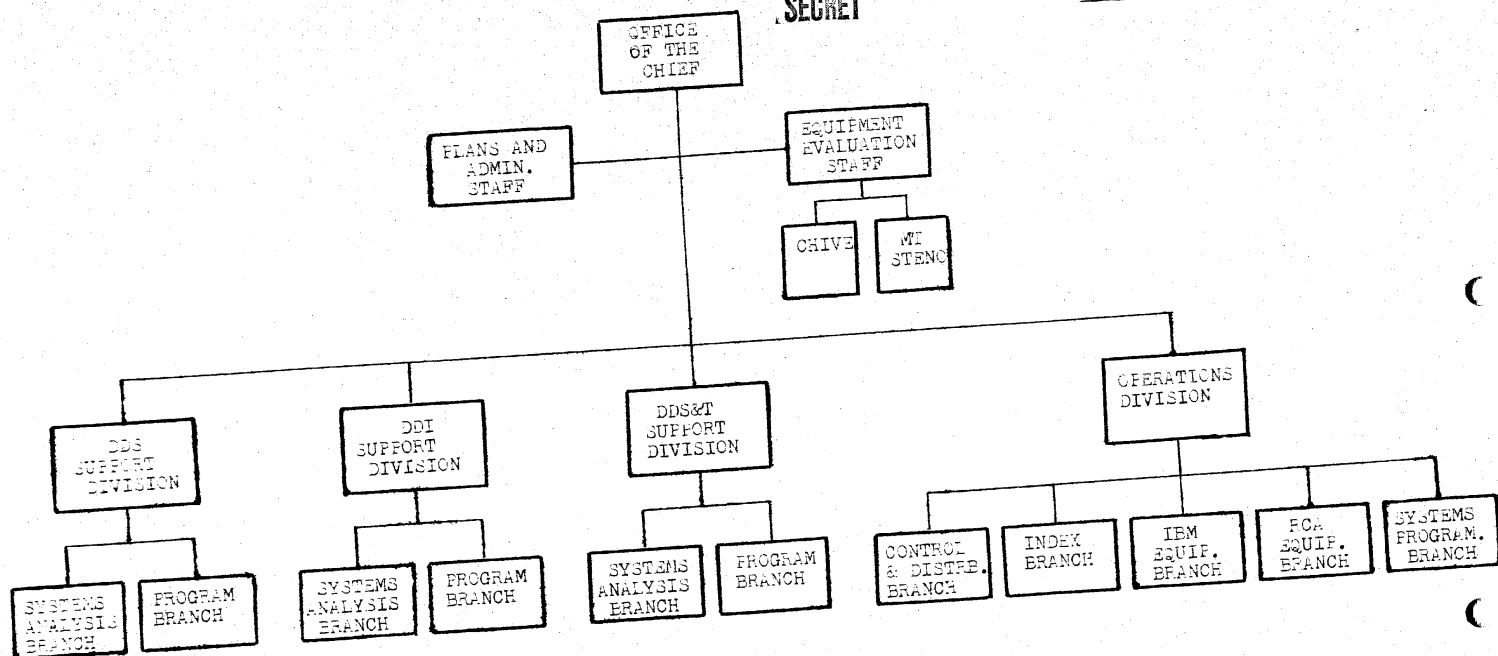
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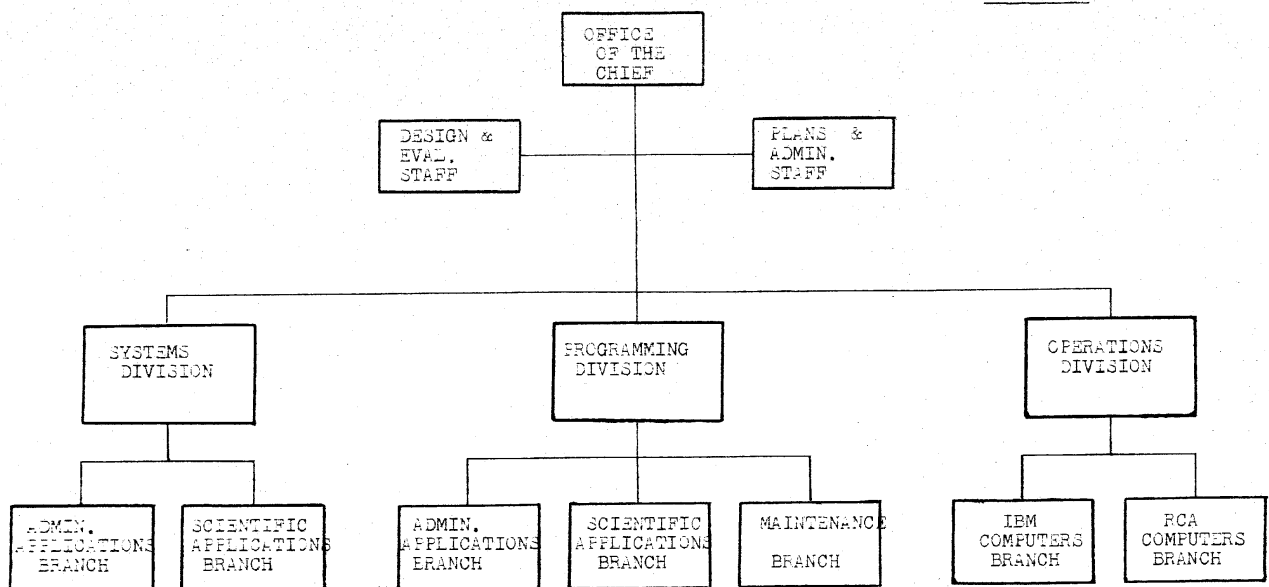
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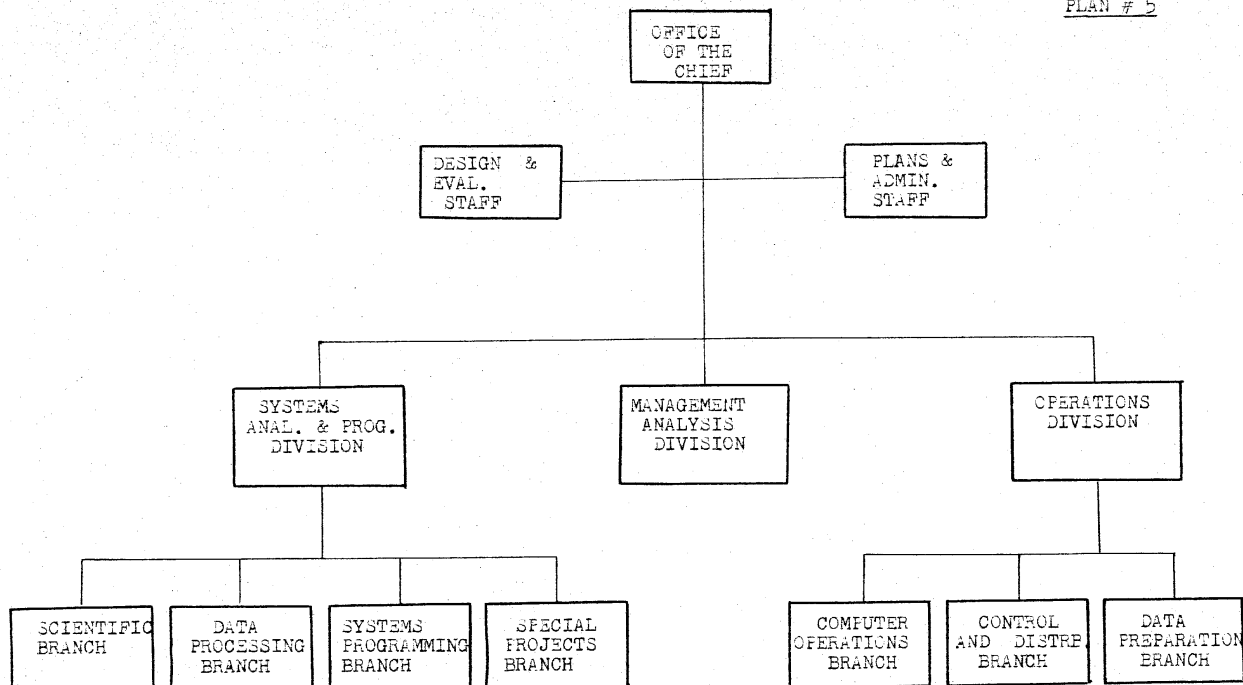
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DESIGN AND EVALUATION STAFF

Responsible for research and evaluation of advanced systems and equipment.

Management Analysis Division

Acts as principal liaison contact between OCS and Agency components. It is our intent that each analyst would be assigned a specific area of responsibility.

Responsible for complete evaluation of new projects requested of OCS and preparation of feasibility studies when necessary.

Responsible for the periodic review of OCS computer operations by:

Determining the present reports requirements adhere to those initially planned for an application;

Recommending discontinuance of reports when it can be proved that the original requirement is no longer valid;

Recommending change in existing reports package when it has been determined that changed Agency requirements necessitate such action;

Recommending procedural change within user organization when such change is to the direct advantage of OCS operations and does not interfere with customer service;

Controlling new projects to the point of program completion, and

General direction to the Systems Analyst in support of requirements.

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### Systems Analysis and Programming Division

Operates on a "team concept" basis with Management Analysis Division personnel.

#### Scientific Branch

Responsible for all systems analysis and programming of scientific applications.

#### Data Processing Branch

Responsible for the systems analysis and programming of all business data processing applications, and all applications involving similar data processing techniques.

#### Systems Programming Branch

Act as "consultant" for OCS programmers regarding computer programming techniques.

Write general-purpose and utility programs.

Evaluate, implement, and modify OCS computer operating systems.

Act as coordinator with manufacturer systems and programming personnel regarding soft-ware packages, etc.

Responsible for the internal (Agency) training of user-group personnel in latest programming techniques, Fortran, etc.

#### Special Projects Branch

Responsible for systems analysis and programming of special applications not clearly defined as scientific or standard data processing.

Responsible for systems analysis and programming of applications of a highly sensitive nature requiring compartmentation.

Responsible for special programming requirements of special purpose machines.

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Operations Division

Responsible for the management and operation of the OCS computer center.

Computer Operations Branch

Responsible for the operation of general and special purpose computers and related peripheral equipment.

Control and Distribution Branch

Responsible for:

Production scheduling and control.

Timely distribution of reports.

Resolution of error conditions encountered in any computer run.

Program library "run=book" control.

Tape library.

Liaison with customers concerning input data error conditions and questions concerning recurring reports.

Reconciliation of control totals.

Data Preparation Branch

Responsible for the preparation of input data, either key punch or tape punch generated.

Coding and/or abstracting.

Indexing.

Conversion of data to appropriate input form.

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